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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/016,510

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Daniel N. Harres

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EXAMINER

MEEK, JACOB M

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/016,510

Applicant(s)

HARRES, DANIEL N.

Examiner

Jacob Meek

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1, 2, 4-14, 17-22 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 6, 9, 10, 13 - 16, 19 – 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Walker (US-5,185,765).

With regard to claim 20, Walker discloses a digital communication system comprising: a transmitter capable of integrating at least one encoded signal, wherein transmitter is capable of integrating at least one encoded digital signal by converting at least one encoded digital signal into at least one integrated signal that is proportional to the time integral of at least one encoded digital signal (see figure 4A, 40, 43 and column 8, lines 23 - 53); and wherein transmitter is capable of transmitting at least one integrated signal (see figure 4A, 43 and column 8, lines 32 – 34); and a receiver capable of receiving at least one integrated signal following transmission (see figure 5A, received signal) and thereafter differentiating at least one integrated signal (see figure 5A, 51A); wherein differentiating comprises converting at least one integrated signal into a representation of at least one encoded signal that is

proportional to the rate of change of at least one integrated signal (see figure 5B, and column 9, line 60 – column 10, line 2).

With regard to claim 21, Walker discloses transmitter is further capable of encoding at least one digital signal according to a predefined communications standard before integrating at least one encoded digital signal (see figure 4A, 40 and column 4, lines 46 – 62); and receiver is further capable of decoding the representation of at least one encoded signal to thereby obtain a representation of at least one digital signal, wherein decoding occurs after differentiating at least one digital signal (see figure 5A, 52).

With regard to claim 22, Walker discloses the receiver is capable of restoring at least one encoded digital signal from the representation of at least one encoded signal (see figure 5B, regenerated signal).

With regard to claim 23, Walker discloses the receiver is capable of restoring at least one encoded signal by comparing the representation of at least one encoded signal to at least one reference digital signal (see figure 5A, 51B REF where this is interpreted as equivalent) and thereafter setting representation of at least one encoded digital signal relative to at least one reference digital signal (see figure 5B, regenerated signal).

With regard to claim 24, Walker discloses the receiver is capable of AC coupling representation of at least one encoded digital signal before restoring at least one encoded digital signal (see figure 5A, 50 where bandpass filter provides AC coupling).

With regard to claim 1, the steps claimed as method are nothing more that a restatement of the functions of the system of claim 20, and therefore would have been obvious given the aforementioned rejection of claim 20.

With regard to claim 2, Walker discloses restoring at least one encoded digital signal from the representation of at least one encoded signal (see figure 5B, regenerated signal).

With regard to claim 3, Walker discloses AC coupling representation of at least one encoded digital signal before restoring at least one encoded digital signal (see figure 5A, 50 where bandpass filter provides AC coupling); wherein restoring at least one encoded signal comprises comparing the representation of at least one encoded signal to at least one reference digital signal (see figure 5A, 51B REF where this is interpreted as equivalent) and thereafter setting representation of at least one encoded digital signal relative to at least one reference digital signal (see figure 5B, regenerated signal).

With regard to claim 4, Walker discloses integrating at least one encoded digital signal comprises low pass filtering at least one encoded digital signal (see figure 4A, 43).

With regard to claim 5, Walker discloses differentiating the at least one integrated signal (see 5A, 51A and column 12 – 17 where a high pass filter is a known form of differentiator).

With regard to claim 6, Walker discloses encoding at least one digital signal according to a predefined communications standard before integrating at least one encoded digital signal (see figure 4A, 40 and column 4, lines 46 – 62); and decoding the representation of at least one encoded signal to thereby obtain a representation of at least one digital signal, wherein decoding occurs after differentiating at least one integrated signal (see figure 5A, 52).

With regard to claim 9, Walker discloses the decoding the representation of at least one encoded digital signal comprises decoding the representation of at least one encoded digital signal according to a predefined communication standard (see column 5, lines 38 – 41).

With regard to claim 10, the transmitter claimed is similarly analyzed to transmitter of claim 20 and therefore obvious given the aforementioned rejection of claim 20.

With regard to claim 13, Walker discloses a transmitter wherein integrator comprises an RC integrator having at least one resistor and capacitor (see figure 4A, 43).

With regard to claim 14, the receiver claimed is similarly analyzed to the receiver of claim 20 and therefore obvious given the aforementioned rejection of claim 20.

With regard to claim 15, the receiver claimed is similarly analyzed to the receiver of claim 23 and therefore obvious given the aforementioned rejection of claim 23.

With regard to claim 16, the receiver claimed is similarly analyzed to the receiver of claim 24 and therefore obvious given the aforementioned rejection of claim 24.

With regard to claim 19, Walker discloses differentiating the at least on integrated signal (see 5A, 51A and column 12 – 17 where a high pass filter is a known form of differentiator and an RC differentiator is the most basic form of differentiator).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7, 8, 11, 12, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker ('765) in view of Jones et al (US-4,507,794) .

With regard to claim 7, Walker is silent with respect to a communication standard having zero content at DC voltage levels. Jones discloses a method of transmitting Manchester encoded data (zero DC content signal) over a bandwidth limited channel using filtering (see

abstract). It would have been obvious to one of ordinary skill in the art at the time of invention that pulse shaping of Manchester data would result in a reduction of bandwidth and radiated noise (see '765, column 3 lines 34 – 37 and '794, abstract).

With regard to claim 8, Walker is silent with respect to a communication standard having zero content at DC voltage levels. Jones discloses a method of transmitting Manchester encoded data (zero DC content signal) over a bandwidth limited channel using filtering of which 4B5B, 5B6B, and 8B10B are also known forms of DC balanced line codes (see abstract). It would have been obvious to one of ordinary skill in the art at the time of invention that pulse shaping of Manchester data would result in a reduction of bandwidth and radiated noise (see '765, column 3 lines 34 – 37 and '794, abstract).

With regard to claims 11 and 12, these claims are similarly analyzed as claims 7 and 8.

With regard to claims 17 and 18, these claims are similarly analyzed as claims 7 and 8.

#### ***Other Cited Prior Art***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bayless, Sr. et al (US-4,135,057) discloses a system and method for the shaping of signals over bandwidth limited channels.

Park et al (US-5,313,494) discloses a system and method for the shaping of transmit pulses for limiting bandwidth.

Polhemus (US-5,444,410) discloses an apparatus for the control of pulse shapes for the reduction of EMI.

Chan (US-6,389,077) discloses a system with EMI reduction capabilities via filtering.

Leitch (US-5,068,874) discloses a method of spectrally efficient transmission.

NPL references are furnished to establish state of knowledge regarding the shaping of data pulses using filtering.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (571)272-3013. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM  
10/3/04



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PRIMARY EXAMINER